WHAT IS CLAIMED IS:

1. A method for generating characterizing information for a selected block of printed material, where said printed material is to be scanned from an object and compared with said characterizing information at a location distant from where said block is printed, said method comprising the steps of:

a) printing said block on an object;

b) determining estimates of robustness for each algorithm in a predetermined set of algorithms; and

c) selecting, as a function of said estimates, a combination of descriptors generated by a corresponding combination of said algorithms as said characterizing information.

2. A method as described in claim 1 where said step b) comprises the sub-steps of:

b1) filtering a pristine digital image of said block of printed material with a print/scan filter to create a filtered image, said print/scan filter simulating the expected transformation of said pristine image by printing and scanning processes;

b2) applying each algorithm from said predetermined set of characterizing algorithms to said filtered image to generate a plurality of corresponding second characterizing information descriptors for said filtered digital image; and

b3) for each algorithm from said predetermined set of characterizing algorithms, comparing corresponding said first and said second descriptors to determine said estimates of robustness.

3.   A method as described in claim 2 where said selected combination of descriptors comprises said second descriptors.

4.   A method as described in claim 1 where said step b) comprises the sub-steps of:

b1) filtering a pristine digital image of said block of printed material with a print/scan filter to create a filtered image, said print/scan filter simulating the expected transformation of said pristine image by printing and scanning processes;

b2) further filtering said filtered image with one or more defacing filters, said defacing filters simulating simulate blots, smudges, failure of print elements or scanner sensors, or other, similar occasional events which can not easily be incorporated into said print/scan filter to create one or more defaced images;

b3) applying each algorithm from said predetermined set of characterizing algorithms to said filtered image and to said one or more defaced images to generate a plurality of corresponding second characterizing information descriptors for said filtered digital image and one or more pluralities of defaced image descriptors corresponding to each of said one or more defaced images; and

b4) for each algorithm from said predetermined set of characterizing algorithms, comparing corresponding first characterizing information descriptors with corresponding second characterizing information descriptors and with each of said one

or more corresponding defaced image descriptors to determine said estimates of robustness.

5.   A method as described in claim 4 where said selected combination of descriptors comprises said second descriptors.

6.   A method as described in claim 1 where said estimates are predetermined and stored for said algorithms.

7.   A method as described in claim 1 where said object is a mail piece and said block of printed material represents an address.

8.   A method as described in claim 7 where said selected combination of descriptors is comprised in an indicium printed on said mail piece; whereby said selected combination can be recovered from said indicium for use at said remote location.

9.   A method as described in claim 8 where said indicium further comprises information identifying said combination.

10.   A method as described in claim 1 where selection of said combination is further based upon said descriptors' sizes.

11. A method as described in claim 1 where selection of said combination is further based upon predetermined rules.

12. A secure indicia printing system for generating and printing an indicium on an object, said object having other material printed thereon, comprising:

a) a printer for printing said indicium;

b) a processor for receiving a pristine digital image of said other printed material, and for processing said image to abstract characterizing information descriptive of aspects of said image from said image, said processor being programmed to:

b1) determine estimates of robustness for each algorithms in a predetermined set of algorithms; and

b2) select, as a function of said estimates, a combination of descriptors generated by a corresponding combination of said algorithms as said characterizing information; and

b3) output said selected combination of descriptors;

c) a meter, said meter communicating with said processor to receive said descriptor, and having a communications link for receiving other information from another information source, and communicating with said printer, for;

c1) cryptographically authenticating said combination of descriptors and other information;

c2) generating said indicium to be representative of said cryptographically authenticated descriptor and information; and

c3) controlling said printer to print said indicium on said object; whereby

d) said object's relationship to said indicium can be verified by regenerating said first characterizing information descriptor from said other printed material and comparing said regenerated descriptor with said descriptor recovered from said indicium, and copies of said indicium cannot easily be used without detection on other objects which do not include said other printed material.

13.   A system as described in claim 12 where said processor is programmed to carry out said programming step b1) by:

b1.1) filtering said pristine digital image of said block of printed material with a print/scan filter to create a filtered image, said print/scan filter simulating the expected transformation of said pristine image by printing and scanning processes;

b1.2) applying each algorithm from said predetermined set of characterizing algorithms to said filtered image to generate a plurality of corresponding second characterizing information descriptors for said filtered digital image; and

b1.3) for each algorithm from said predetermined set of characterizing algorithms, comparing corresponding said first and said second descriptors to determine said estimates.

14.   A system as described in claim 13 where said selected combination of descriptors comprises said second descriptors.

15.   A system as described in claim 12 where said processor is programmed to carry out said programming step b1) by:

b1.1) filtering said pristine digital image of said block of printed material with a print/scan filter to create a filtered image, said print/scan filter simulating the expected transformation of said pristine image by printing and scanning processes;

b1.2) further filtering said filtered image with one or more defacing filters, said defacing filters simulating simulate blots, smudges, failure of print elements or scanner sensors, or other, similar occasional events which can not easily be incorporated into said print/scan filter to create one or more defaced images;

b1.3) applying each algorithm from said predetermined set of characterizing algorithms to said filtered image and to said one or more defaced images to generate a plurality of corresponding second characterizing information descriptors for said filtered digital image and one or more pluralities of defaced image descriptors corresponding to each of said one or more defaced images; and

b2.4) for each algorithm from said predetermined set of characterizing algorithms, comparing corresponding first characterizing information descriptors with corresponding second characterizing information descriptors and with each of said one or more defaced image descriptors to determine said estimates.

16.   A system as described in claim 15 where said selected combination of descriptors comprises said second descriptors.

17.   A system as described in claim 10 where said estimates are predetermined and stored for said algorithms.

18.   A system as described in claim 12 where said object is a mail piece and said block of printed material represents an address.

19.   A system as described in claim 12 where selection of said combination is further based upon said descriptors' sizes.

20.   A system as described in claim 12 where selection of said combination is further based upon predetermined rules.

21.   A system for generating and printing an indicium on an object, said object having other material printed thereon, and for verifying said indicium, comprising:

a) an indicia printing system, comprising:

a1) a printer for printing said indicium;

a2) a processor for receiving a pristine digital image of said other printed material, and for processing said image to abstract characterizing information descriptive of aspects of said image from said image, said processor being programmed to:

a2.1) determine estimates of robustness for each algorithms in a predetermined set of algorithms; and

a2.2) select, as a function of said estimates, a combination of descriptors generated by a corresponding combination of said algorithms as said characterizing information;

a2.3) output said selected combination of descriptors; and

a3) a meter, said meter communicating with said processor to receive said combination of descriptors, and having a communications link for receiving other information from another information source, and communicating with said printer, for;

a3.1) cryptographically authenticating said combination of descriptors and said other information;

a3.2) generating said indicium to be representative of said cryptographically authenticated combination of descriptors and other information; and

a3.3) controlling said printer to print said indicium on said object; and

b) a verifying system for receiving said object and verifying said indicium, comprising:

b1) a scanner for scanning images of said indicium and said other printed material from said object;

b2) a diverter for diverting said object for further inspection;

b3) a verification controller programmed to:

b3.1) input said scanned images;

b3.2) input a combination of first descriptors from said indicium image;

b3.3) identify characterizing algorithms used to generate said first descriptors;

b3.4) apply said identified algorithms to said image of said other material to generate second descriptors;

b3.5) compare said first and second descriptors; and

b3.6) if said first and second descriptors do not match, control said diverter to divert said object for further inspection; whereby

c) said object's relationship to said indicium can be verified and copies of said indicium cannot easily be used without detection on other objects which do not include said other printed material.

22.   A system as described in claim 21 where said object is a mail piece and said block of printed material represents an address.

23.   A verifying system for receiving an object said object having an indicium and other material printed thereon, and for verifying said indicium, comprising:

a) a scanner for scanning images of said indicium and said other printed material from said object;

b) a diverter for diverting said object for further inspection;

c) a verification controller programmed to:

c1) input said scanned images;

c2) input a combination of first descriptors from said indicium image;

c3) identify characterizing algorithms used to generate said first descriptors;

c4) apply said identified algorithms to said image of said other material to generate second descriptors;

c5) compare said first and second descriptors; and

c6) if said first and second descriptors do not match, control said diverter to divert said object for further inspection.

24.   A method for generating and printing an indicium on an object, said object having other material printed thereon, and for verifying said indicium, comprising the steps of:

a) receiving a pristine digital image of said other printed material, and processing said image to abstract characterizing information descriptive of aspects of said image from said image by:

a1) determining estimates of robustness for each algorithms in a predetermined set of algorithms;

a2) selecting, as a function of said estimates, a combination of descriptors generated by a corresponding combination of said algorithms as said characterizing information; and

b) outputting said selected combination of descriptors to a meter; said meter then

b1) receiving other information from another information source;

b2) cryptographically authenticating said combination of descriptors and said other information;

b3) generating said indicium to be representative of said cryptographically authenticated combination of descriptors and other information; and

b4) controlling said printer to print said indicium on said object; then

c) transporting said object to a verifying system; said verifying system then:

c1) scanning images of said indicium and said other printed material from said object;

c2) inputting a combination of first descriptors from said indicium image;

c3) identifying characterizing algorithms used to generate said first descriptors;

c4) applying said identified algorithms to said image of said other material to generate second descriptors;

c5) comparing said first and second descriptors; and

c6) if said first and second descriptors do not match, diverting said object for further inspection; whereby

d) said object's relationship to said indicium can be verified and copies of said indicium cannot easily be used without detection on other objects which do not include said other printed material.

25.   A method as described in claim 24 where said object is a mail piece and said block of printed material represents an address.

26.   A method for verifying an indicium printed on an object, said object having other material printed thereon, comprising the steps of:

a) scanning images of said indicium and said other printed material from said object;

b) inputting a combination of first descriptors from said indicium image;

c) identifying characterizing algorithms used to generate said first descriptors;

d) applying said identified algorithms to said image of said other material to generate second descriptors;

e) comparing said first and second descriptors; and

f) if said first and second descriptors do not match, diverting said object for further inspection; whereby

g) said object's relationship to said indicium can be verified and copies of said indicium cannot easily be used without detection on other objects which do not include said other printed material.